Class Code: 5016
Revised: 4-5-01

INSTRUMENT, CONTROL AND ELECTRICAL TECHNICIAN

PURPOSE AND NATURE OF WORK

Positions in this class maintain all controls, instruments, electrical systems and related equipment in a natural gas fueled electric generation plant. Incumbents work under immediate supervision and guidance during apprentice period, and with significant independence at completion of training, subject to supervision of a Plant Maintenance Foreman. Position is subject to 24-hour call and work is sometimes hazardous.

ILLUSTRATIVE EXAMPLES OF WORK (Note: These examples are intended only to illustrate the various types of work performed by incumbents in this class. All of the duties performed by any one incumbent may not be listed, nor does any incumbent necessarily perform all of these duties.)

Reviews manuals and manufacturer's specifications for equipment; inspects, tests and takes necessary actions to insure proper and optimum performance of all sensors, processors, annunciator/indicators/ recorders, controls and feed equipment and systems. Maintains, calibrates, troubleshoots and repairs turbine and boiler control systems, and loop circuits, including testing control valves for proper operations, performing prescribed control system line-up and check-out, adjusts feedback transducers, position and limit switches, meters, indicators, motor actuator control drives and control boards. Assures proper functioning of continuous air emission and plant out fall monitoring systems by testing operation according to specifications; maintaining and repairing system components, probes, controls, power supplies, communications and controls. Maintains remote and peripherals components as well as overall functioning of centralized plant data acquisition and performance monitoring system. Interprets schematics, inspects, tests, cleans, maintains and repairs as necessary to assure proper, safe and efficient operation of all plant electric distribution systems. Uses volt/ohm meters, megars and high potential testers to measure, analyze, locate and resolve any and all problems with motor controls, starters, circuit breakers, switches, connections and related. Uses logic probes, oscilloscopes and manufacturers' card testers in maintenance of boiler burner management and other systems. Uses vibration analyzers in routine monitoring of all rotating equipment. Tests, cleans and performs maintenance as necessary to assure performance of batter banks, emergency systems, fire fighting, HVAC systems and alarms. Maintains generator voltage control excitation systems, generator/turbine electrical/electronic system. Maintains all cranes and related equipment.

Performs related work as required.

NECESSARY KNOWLEDGES, ABILITIES, AND SKILLS

Considerable knowledge of purpose, characteristics and maintenance requirements of generating plant electrical, electronic, mechanical, hydraulic and pneumatic systems.

Considerable knowledge of plant characteristics, processes, and safety, health and environmental requirements.

Ability to observe work and remain alert while working under stress and adverse conditions for extended periods of time and at irregular hours.

Ability to read, understand interpret schematics, blueprints, technical manuals, as well as to use test equipment of all types as required.

Ability to climb, lift up to 50 pounds, to work at heights, to enter and work in confined spaces in high temperatures and noise levels.

Ability to analyze interactions of complex instruments, controls, processes and human operators to identify and solve problems.

Ability to form and maintain effective working relationships with foremen, technicians and others.

DESIRABLE TRAINING AND EXPERIENCE

High school supplemented by completed vocational/technical schools in electronics or industrial electricity, and significant working experience in heavy industrial plant instrumentation, process control and electric systems.